

Please amend the claims as follows:

~~2273~~. (amended) The method of claim ~~2270~~, wherein at least one of the one or more heaters comprises an electrical heater.

~~2274~~. (amended) The method of claim ~~2270~~, wherein at least one of the one or more heaters comprises a surface burner.

~~2275~~. (amended) The method of claim ~~2270~~, wherein at least one of the one or more heaters comprises a flameless distributed combustor.

~~2276~~. (amended) The method of claim ~~2270~~, wherein at least one of the one or more heaters comprises a natural distributed combustor.

~~2279~~. (amended) The method of claim ~~2270~~, wherein providing heat from the one or more heaters to at least the portion of the formation comprises:

heating a selected volume ( $V$ ) of the hydrocarbon containing formation from the one or more heat sources, wherein the formation has an average heat capacity ( $C_v$ ), and wherein the heating pyrolyzes at least some hydrocarbons within the selected volume of the formation; and wherein heating energy/day ( $Pwr$ ) provided to the selected volume is equal to or less than  $h \cdot V \cdot C_v \cdot \rho_B$ , wherein  $\rho_B$  is formation bulk density, and wherein an average heating rate ( $h$ ) of the selected volume is about 10 °C/day.

~~2281~~. (amended) The method of claim ~~2270~~, wherein allowing the heat to transfer to the selected section of the formation heats the selected section to increase a thermal conductivity of at least a portion of the selected section to greater than about 0.5 W/(m °C).

~~2303~~. (amended) The method of claim ~~2270~~, wherein allowing the heat to transfer increases a permeability of a majority of the selected section to greater than about 100 millidarcy.

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D4 2304. (amended) The method of claim 2270, wherein allowing the heat to transfer increases a permeability of a majority of the selected section such that the permeability of the majority of the selected section is substantially uniform.

SUBJECT D5 5397. (amended) A method of treating a hydrocarbon containing formation in situ, comprising: providing heat from one or more heaters to at least a portion of the formation; and allowing the heat to transfer from the one or more heaters to a part of the formation such that a porosity of a majority of the part increases substantially uniformly.

42 41 5398. (amended) The method of claim 5397, wherein the heat is allowed to transfer from the one or more heaters to at least a portion of the part to establish a pyrolysis zone in the part of the formation.

43 41 5399. (amended) The method of claim 5397, wherein the heat is allowed to transfer from the one or more heaters to at least a portion of the part to establish a pyrolysis zone proximate to and/or surrounding at least one heater in the part of the formation.

44 41 5402. (amended) The method of claim 5397, wherein at least one of the one or more heaters comprises an electrical heater.

D6 47 41 5403. (amended) The method of claim 5397, wherein at least one of the one or more heaters comprises a surface burner.

48 41 5404. (amended) The method of claim 5397, wherein at least one of the one or more heaters comprises a flameless distributed combustor.

49 41 5405. (amended) The method of claim 5397, wherein at least one of the one or more heaters comprises a natural distributed combustor.

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D6 5408. (amended) The method of claim 5397, wherein at least one of the one or more heaters comprises a natural distributed combustor, the method further comprising allowing oxidizing fluid to react with at least some hydrocarbons within a reaction zone to generate heat in the reaction zone and transferring the generated heat substantially by conduction from the reaction zone to the part.

5409. (amended) The method of claim 5397, wherein providing heat from the one or more heaters to at least the portion of the formation comprises:

D7 heating a selected volume ( $V$ ) of the hydrocarbon containing formation from the one or more heat sources, wherein the formation has an average heat capacity ( $C_v$ ), and wherein the heating pyrolyzes at least some hydrocarbons within the selected volume of the formation; and

wherein heating energy/day ( $Pwr$ ) provided to the selected volume is equal to or less than  $h \cdot V \cdot C_v \cdot \rho_B$ , wherein  $\rho_B$  is formation bulk density, and wherein an average heating rate ( $h$ ) of the selected volume is about 10 °C/day.

5411. (amended) The method of claim 5397, wherein allowing the heat to transfer to the part of the formation heats the part to increase a thermal conductivity of at least a portion of the part to greater than about 0.5 W/(m °C).

5427. (amended) The method of claim 5397, further comprising controlling formation conditions to produce a mixture from the formation, wherein a partial pressure of  $H_2$  within the mixture is greater than about 0.5 bar.

5428. (amended) The method of claim 5397, further comprising producing a mixture from the formation, wherein a partial pressure of  $H_2$  within the mixture is measured when the mixture is at a production well.

5431. (amended) The method of claim 5397, further comprising:  
providing hydrogen ( $H_2$ ) to the heated section to hydrogenate hydrocarbons within the section; and

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heating a portion of the section with heat from hydrogenation.

5433. (amended) The method of claim 5397, wherein allowing the heat to transfer increases a permeability of a majority of the part to greater than about 100 millidarcy.

5434. (amended) The method of claim 5397, wherein allowing the heat to transfer increases a permeability of a majority of the part such that the permeability of the majority of the part is substantially uniform.

5437. (amended) The method of claim 5436, wherein at least about 20 heaters are disposed in the formation for each production well.

5467. (new) A method of treating a hydrocarbon containing formation in situ, comprising:  
providing heat from one or more heaters to at least a portion of the formation;

allowing the heat to transfer from the one or more heaters to a part of the formation such that a porosity of a majority of at least a portion of the part increases substantially uniformly; and  
altering a pressure within the formation to inhibit production of hydrocarbons from the formation having carbon numbers greater than about 25.

5468. (new) The method of claim 5467, wherein the one or more heaters comprise at least two heaters, and wherein superposition of heat from at least two heaters pyrolyzes at least some hydrocarbons within the part of the formation.

5469. (new) The method of claim 5467, further comprising maintaining a temperature within the part within a pyrolysis temperature range, wherein the pyrolysis temperature range is from about 250 °C to about 370 °C.

5470. (new) The method of claim 5467, further comprising controlling a pressure and a temperature within at least a majority of the part of the formation, wherein the pressure is controlled as a function of temperature, or the temperature is controlled as a function of pressure.

~~57~~ 5471. (new) The method of claim ~~83~~ 5467, further comprising producing a mixture from the formation, wherein the produced mixture comprises condensable hydrocarbons having an API gravity of at least about 25°.

~~89~~ 5472. (new) The method of claim ~~83~~ 5467, further comprising controlling a pressure within at least a majority of the part of the formation, wherein the controlled pressure is at least about 2.0 bar absolute.

~~89~~ 5473. (new) The method of claim ~~83~~ 5467, wherein allowing the heat to transfer increases a permeability of a majority of the part such that the permeability of the majority of the part is substantially uniform.

D13 ~~90~~ 5474. (new) The method of claim ~~83~~ 5467, wherein the part of the formation comprises a selected section.

~~91~~ 5475. (new) The method of claim ~~83~~ 5467, wherein the heat is allowed to transfer from the one or more heaters to at least a portion of the part of the formation to establish a pyrolysis zone in the part of the formation.

~~92~~ 5476. (new) The method of claim ~~83~~ 5467, wherein the heat is allowed to transfer from the one or more heaters to at least a portion of the part of the formation to establish a pyrolysis zone proximate to and/or surrounding at least one of the one or more heaters in the part of the formation.

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